#### THE ADVENTURES OF ARCHIBALD HIGGINS

#### THE ECONOMICON

Jean~Pierre Petit



Translated by John Murphy

The Association Knowledge without Borders, founded and chaired by Professor Jean-Pierre Petit, astrophysicist, aims at spreading scientific and technical knowledge in as many countries as possible and in as many languages as possible. To this end, all his popular scientific works, which cover a period of thirty years, and more particularly the illustrated albums he has created, are now freely accessible. Anyone is now free to duplicate the present file, either in digital form or in the form of printed copies and circulate these copies to libraries , within the context of schools or universities or associations whose aims would be the same as the association , provided that they do not derive any profit from this circulation and that they do not have any political, sectarian or confessional connotations. These pdf files may also be put on line in the computer networks of school and university libraries.



Jean-Pierre Petit intends to create numerous other works which will be accessible to a larger audience. Even illiterate people will be able to read them because the written parts will "speak" when the readers click on them. Thus it will be possible to use these works to support literacy schemes. Other albums will be "bilingual" in so far as it will be possible to switch from one language to another selected language with a mere click. Hence another tool made available to develop language skills.

Jean-Pierre Petit was born in 1937. He made his career in French research. He worked as a plasma physicist, he directed a computer science centre, he has created softwares, he has published hundreds of articles in scientific magazines, dealing with subjects ranging from fluid mechanics to theoretical cosmology. He has published about thirty books which have been translated in numerous languages.

The association can be contacted on the following internet site:

The translation of this comic book from French to English was sponsored by :

## Yvé MARC-AMELIEN

from Paris, France



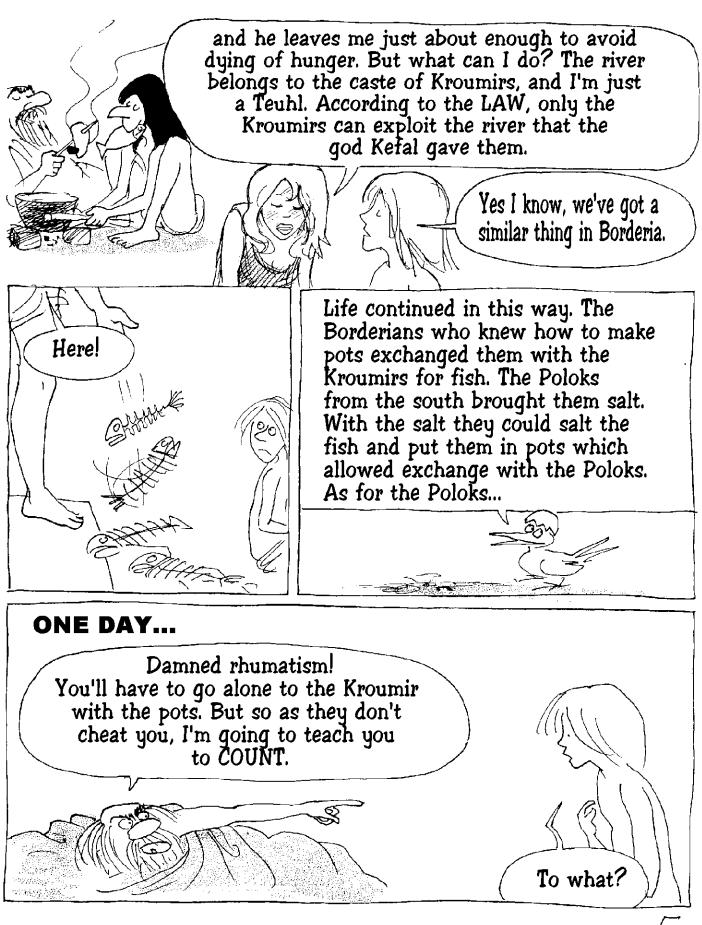
marc-amelien.yve@laposte.net

## **PROLOGUE**

Once upon a time in Borderia...

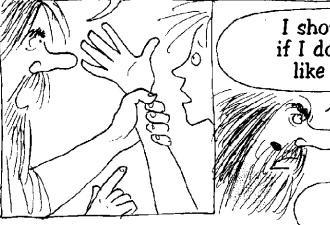






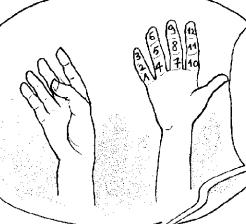
## **ACCOUNTING**

I'm going to teach you the SECRET OF FINGERS. Listen, stupid, can you see your hands? There are fingers on them aren't there? And each finger includes joints?



I shouldn't be teaching you this but if I don't, the Kroumir will cheat you like a blind kid at a a poker party.

And I don't like to be cheated.



Watch. See, you use your thumb to indicate the joints in this order. When you've finished that makes a dozen. Use tree bark to mark all that.



Off you go, and don't reveal the secret to anybody, if not the god Wal will punish you and you'll be obliged to explain yourselfto me!...

And if you cheat me I'll have you flayed.

# THE BIRTH OF MONEY



I've got something better. See those small iron objects? Each REPRESENTS a fish.





I can see that but what will I tell my master If I take him small objects instead of fish?

These iron fish are very popular you know. The southern Poloks exchange them for food sometimes. Hunters know how to make arrowheads out of them and it seems that they can make lots of other things if you melt them.



Sorry, but I don't TRUST them.
They're pretty small and I'll get beaten.

Well how are you going to do your accounts with your pots? This system will simplify your life, one fish, one object.

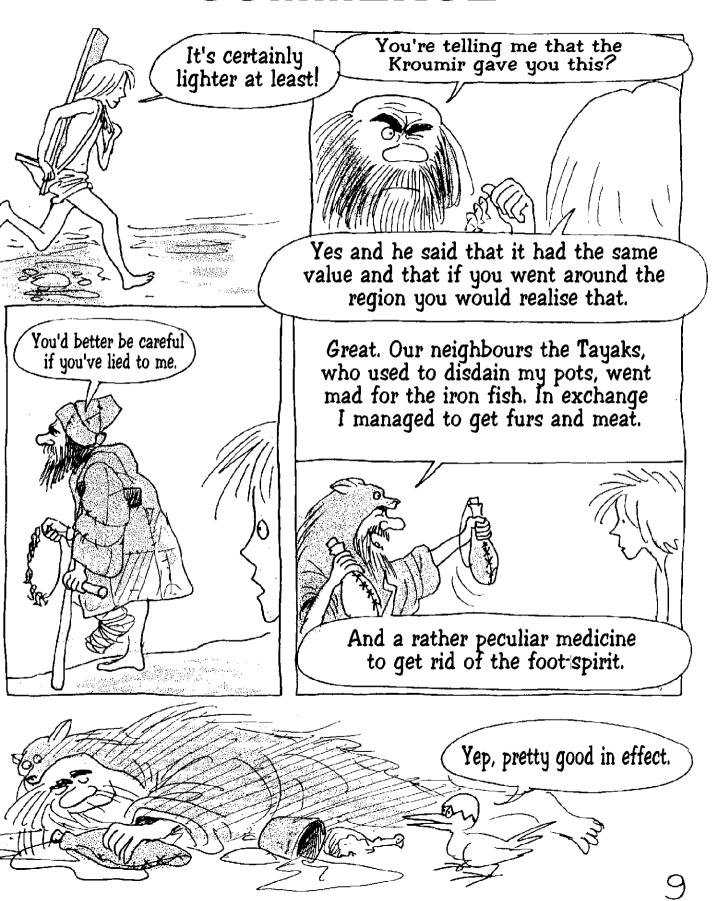
That way you won't make a mistake. As well as that you can make a necklace and then you won't lose any on the way back!(\*)





(\*) Something done much later in some Mediterranean villages

## COMMERCE



So money allows transactions to be made without needing to directly exchange products that may need to be consumed immediately. The Xbreuh uses pieces of metal to change his pots of meat for alcohol, by accepting to temporarily hold objects that can't be used directly but can be used as a token of exchange, MONEY



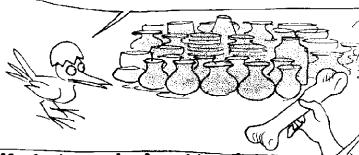


# CONSUMER CIVILISATION

I've come to a decision. You'll have to make more pots, tons of pots, and instead of exchanging them for real fish, you can bring back those little objects instead. I'll buy meat with them, and a lot of medicine.



What good is it to you to make three times as many pots? Three times more than you NEED?



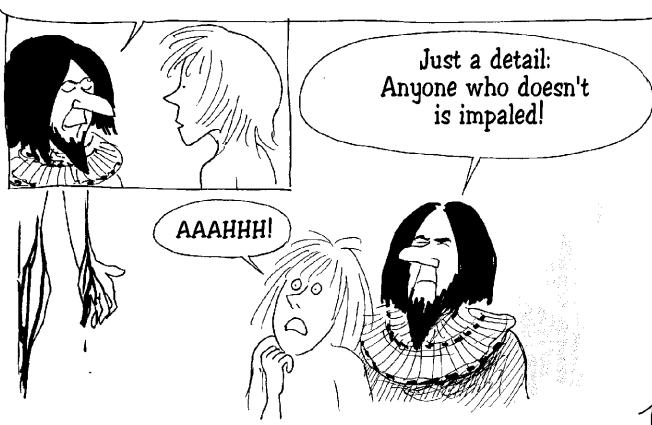
Yeah, instead of sucking fish bones I get to suck a meat bone. Huh!



Ah, something new. The little metallic fish have got an inscription on them.



The southern Poloks have been warring with just about anybody. In the end they annoyed King NUMIS who went after them and imposed his domination over the entire country. He found the idea of the little metal fish amusing so he took over the metal mines and the foundries. Now he has the exclusivity in this affair and he's putting his mark, his seal, on each piece.



## THE MONEY SUPPLY



MONEY, is a great idea. We can buy the entire world.



The earth sire? Why not the universe?

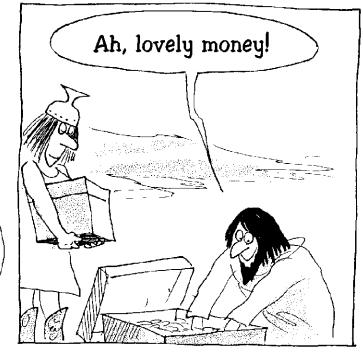


You're right. Let's buy the universe.

Business is going well Sophia, I have very large orders from King NUMIS. He has decided to invite all the inhabitants of the earth to lunch. He wants incredible quantities of potted fish.



We'll have to intensify fishing, you'll have to weave a gigantic net so that we can trawl the lake!



As for Archibald, he had to make an incredible number of pots for the Xbreuh of Borderia.

That makes a hand of hands of hands (\*)



You mean those arrowheads.
We've got plenty already
thanks. Our quivers are all
full so we're really not
interested.



But at the other end of the chain, among the Tayaks...

Two hundred litres of medicine for your foot-spirit!

And what next?



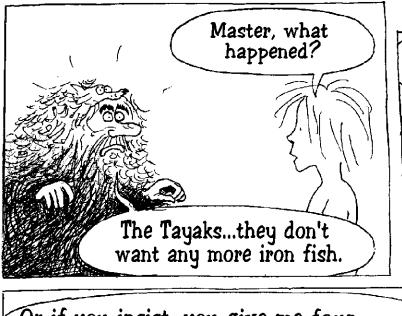
But you can't do that. It was one arrowhead a litre before! I can make you stick to this rate you know.

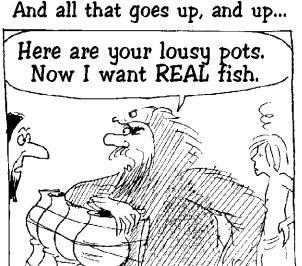


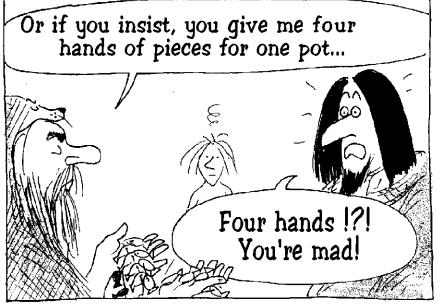
Oh really? Go and get the resin and chicken feathers lads.

(\*) 12×12×12 = 1728

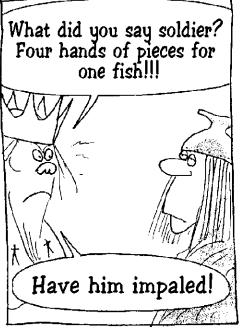
(A hand contains twelve phalanxes)



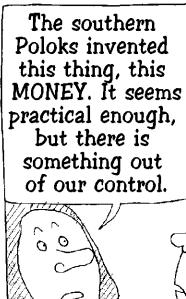


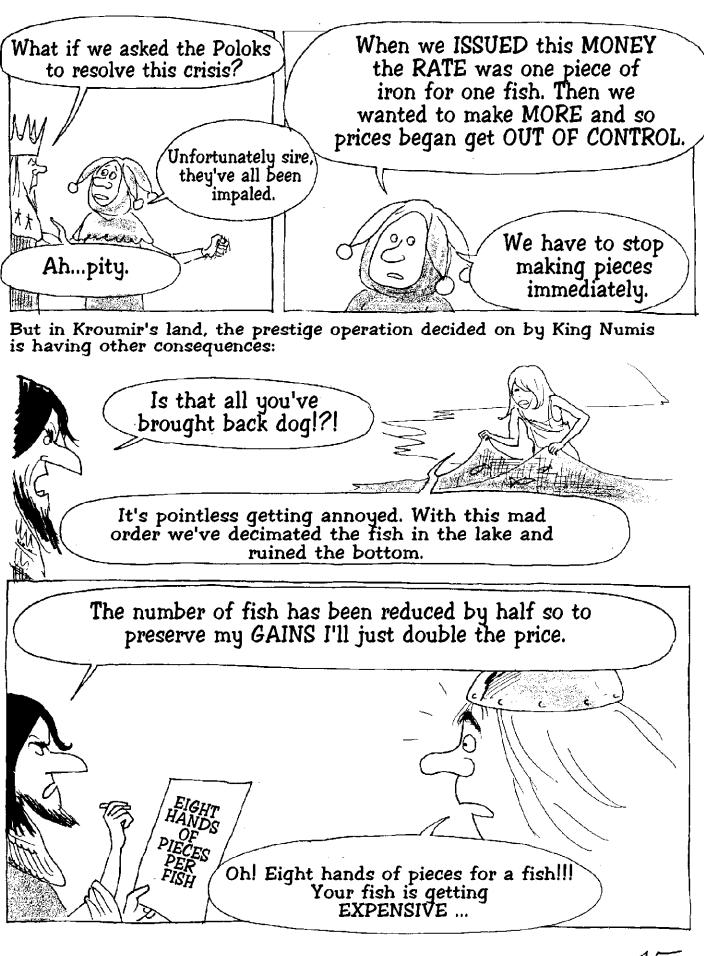












### THAT WHICH IS RARE IS EXPENSIVE

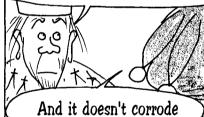
Have you seen sire, fish is becoming so scarce that its price is climbing RARETY INCREASES VALUE.



Perhaps we didn't make a good choice with our money. Iron is becoming a common product, they make cart wheels out of it. Metallurgy is developing. We would be better making money with something that is RARE.



You're right. Gold is hard to produce, there will never be great quantities of it...



But one thing bothers me: this gold can't be USED for anything, it's a pretty soft metal.



Why should it be able to be used for something?

I don't know...iron can be melted. You can make lots of USEFUL things out of it. Arrowheads, nails...

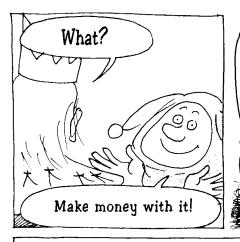


Objects of CONSUMPTION

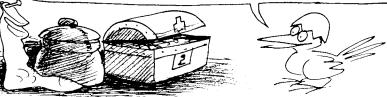
WWW

Well I've thought of a use for gold...

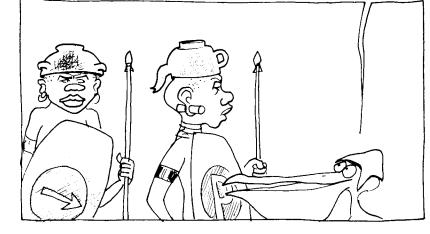
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The country then had a relative period of MONETARY STABILITY. The money quickly imposed itself in EXCHANGES as an indispensable intermediary. HOARDED, stored, it became SAVINGS.



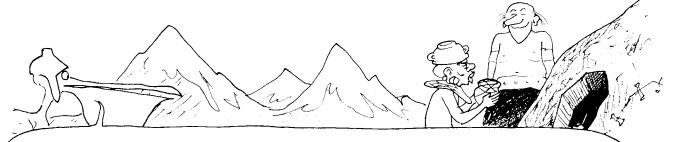
Commerce developed bit by bit. The Xbreuh of Borderia managed to convince the Tayaks to buy his pots, so creating a new OPENING for his PRODUCTION, a new MARKET.



In his turn, the king of the Tayaks was introduced to the pleasure of consumption. and, in exchange for hunted meat, he bought himself lots of fine things



## **BANKS**



Careful to economise the money of his people and in order to avoid tempting anyone to steal it, he decided to confide it to a neutral neighbour without reproach, who promised to keep it in a safe place in exchange for a small fee.

## INFLATION THROUGH SUPPLY

Listen everyone! You who have been walking with bare heads, at the mercy of cosmic aggression, evil spirits, negative waves and the rays of the sun, you need to adopt the original Borderian hat, if you want to be ahead, get a HEAD-COVERER!

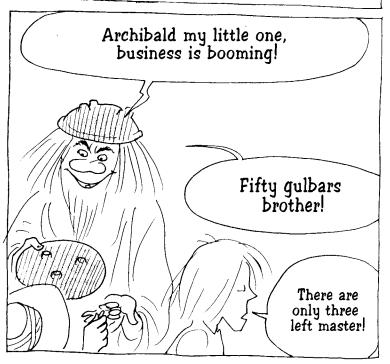


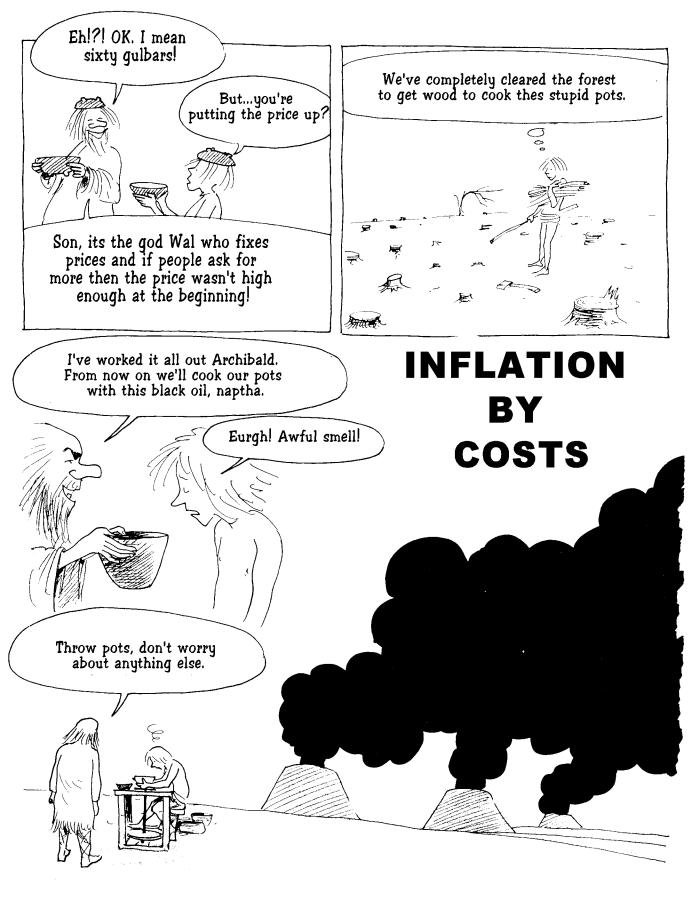
Don't waste your time at the schooldesk. Our GNOSOSOPHIC hat will bring you all the knowledge you don't have by TRANSCEREBRAL DIFFUSION.



Archibald Higgins, here present, who was a complete ignorant, learnt the SECRET OF THE FINGERS thanks to our HEAD-COVERER







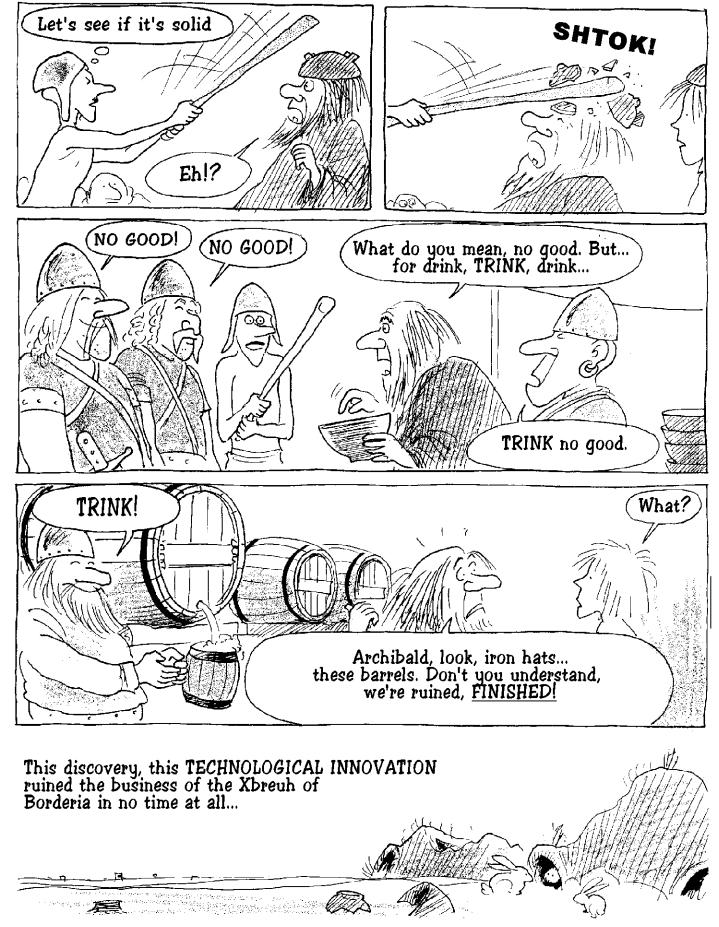












## THE EMPLOYMENT MARKET



That's numbering in base twelve. We count in decimals now old fellow!..



With all these modern tehniques we can't keep up.



Archibald found himself on the arid road of UNEMPLOYMENT, while Sophia, on the banks of the lake...

MATKOBOWSKA. Since we killed the Kroumir and took possession of the lake, what has happened?

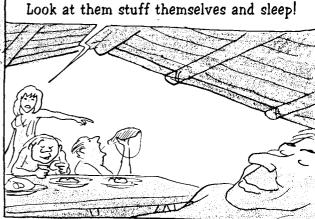
Us fishers have contined to do all the work and in the meantime we've seen a whole band of parasites turn up, so we're really no better off.

It's wonderful our Kooperative!

Comrade: You shouldn't say that. The KOLLECTIVE is a combat. Here you are fighting on the production front, but others are fighting in the fields of POLITICAL CONSCIOUSNESS and on the PLAN. We live in a PLANNED ECONOMY (\*)



Yeah right! Just come and have a look at your heros of political consciousness!



They're not stuffing themselves, they're tasting. It's quality control.
You've got a warped mind!



Quality control my eye!

For ONE who is really working there are TEN doing nothing or sleeping. We live better here, Kollectively. There is no unemployment, work for everyone.



Be careful Sophia, he's from Security. He's dangerous.

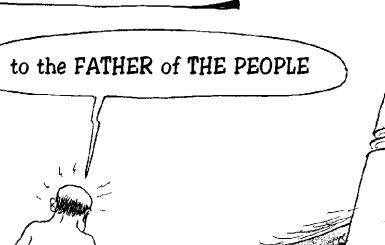
where everything: Production, salaries, prices, consumption, is under the control of the state (as opposed to a liberal economy). I know all that by heart. Heaven knows I wanted this revolution and when we killed the Kroumir I didn't shed a tear for him. But what are you doing to ensure that a new caste of incapable, lazy people and cretins isn't being formed, but with a "high political consciousness"...and why do they get the fish tails and we get the heads? Why are there all these PRIVILEGES?

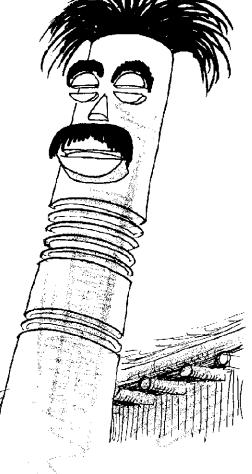


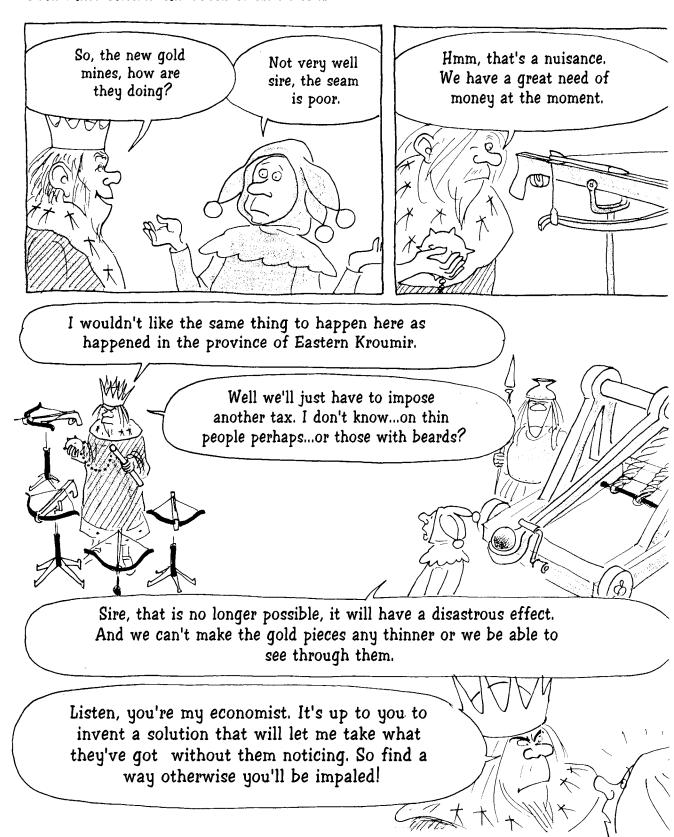
Your retrograde mentality is blinding you. You have to look at the big picture and not dwell on each little case.

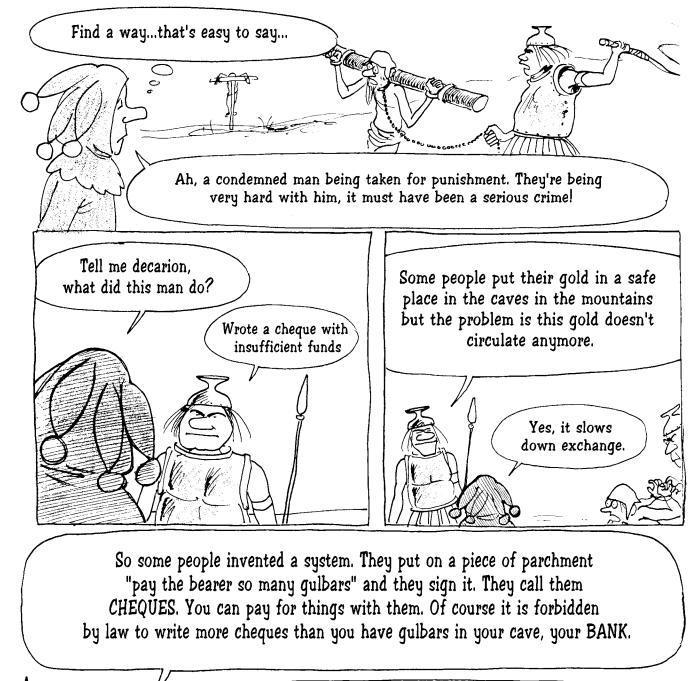
Over there beyond the hills in Borderia it's EXPLOITATION OF MAN BY MAN.











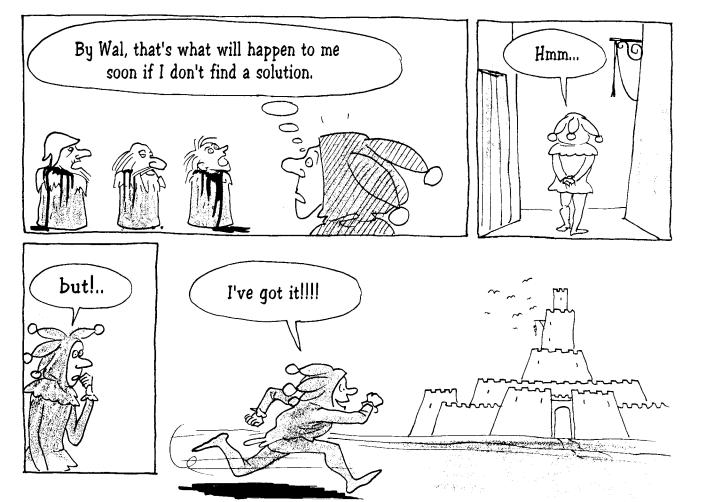
If they want people can take them into the mountains



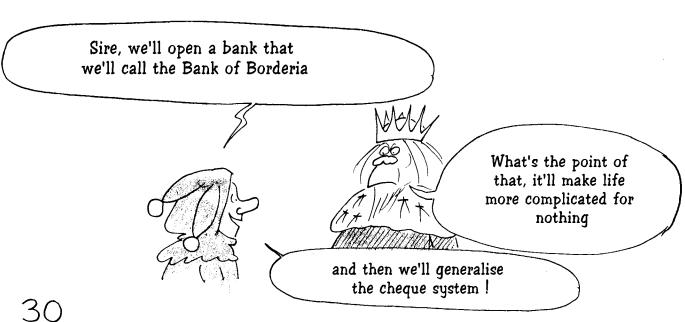
and exchange them for gold-gulbats.

AAA AAA HHHH

Thankyou very much decarion, you can stand at ease and rest, you must have made quite an effort to explain all that to me.



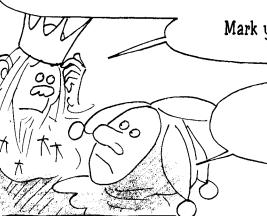
## **PAPER MONEY**



We start by bringing to our bank all the gold held by our subjects. "Encouraging" them of necessary. In exchange we'll give them papers saying "voucher worth so many gulbars" and we'll make it that in the end that is all that there is in circulation.



Yes but wait...if we issue lots of papergulbars people will start to become suspicious, even if they are stupid. And if there are more papergulbars, far more than gold-gulbars, it wouldn't be possible to change them all at the same time, one for one, PARITY.



Mark you, I could always refuse to change them.

That might cause panic sire, people would lose all trust in PAPER-MONEY.

If we issue twice as many paper gulbars than there are gold-gulbars, all we need to do is change them two for one.

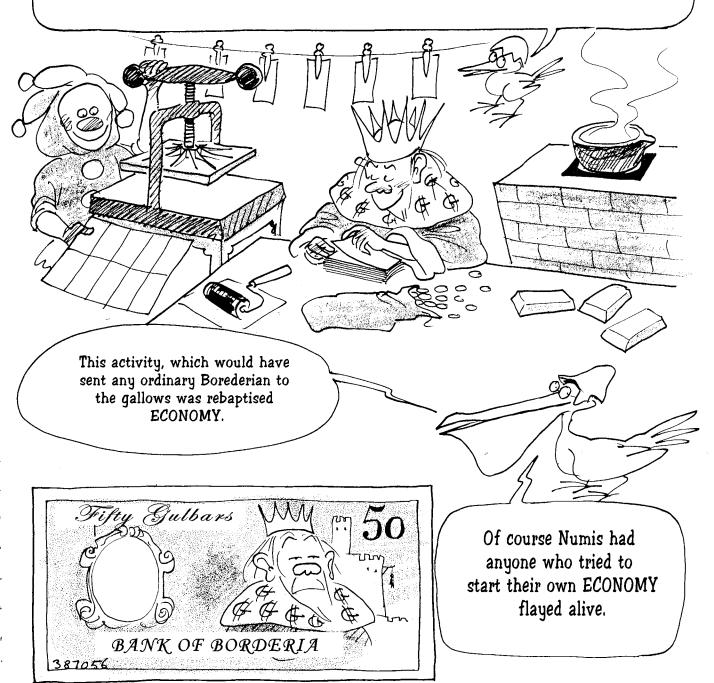
I don't think that would go down very well sire.

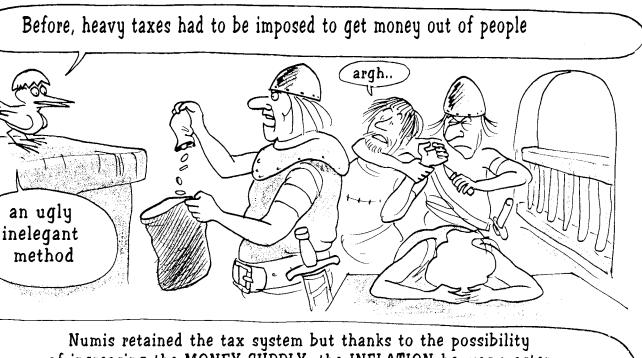
I know what we should do. When people have given us all their gold-gulbars, we'll melt them down!

Yes, and what will that give us?

Gold, simply GOLD.

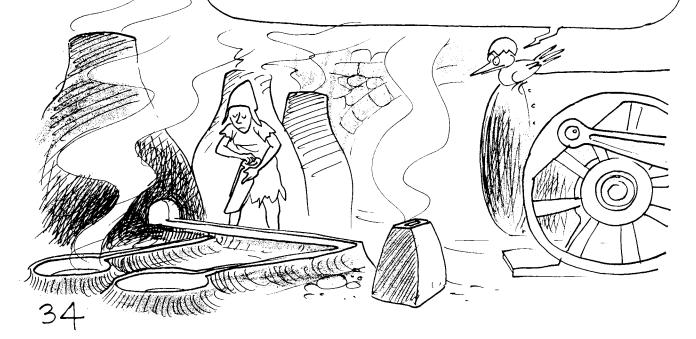
Thus began the biggest affair of dud cheques in the history of the kingdom. Everything went as planned. People brought their gold gulbars, which were immediately melted down and about which nothing more was heard. King Numis had loads of notes printed which people used to buy all sorts of things from here and from there. Obviously prices rose, the gold price too, but as everything was more expensive people no longer remembered the old Borederian money.

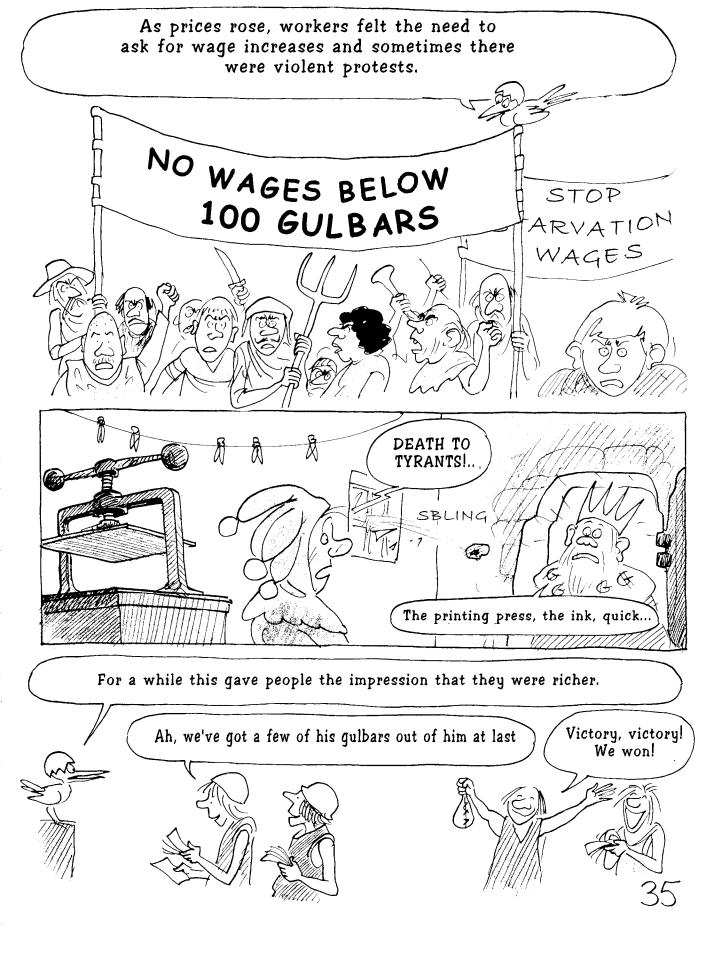




Numis retained the tax system but thanks to the possibility of increasing the MONEY SUPPLY, the INFLATION he was master of, he never ran out of paper money. OF course, at the same time prices rose and rose...

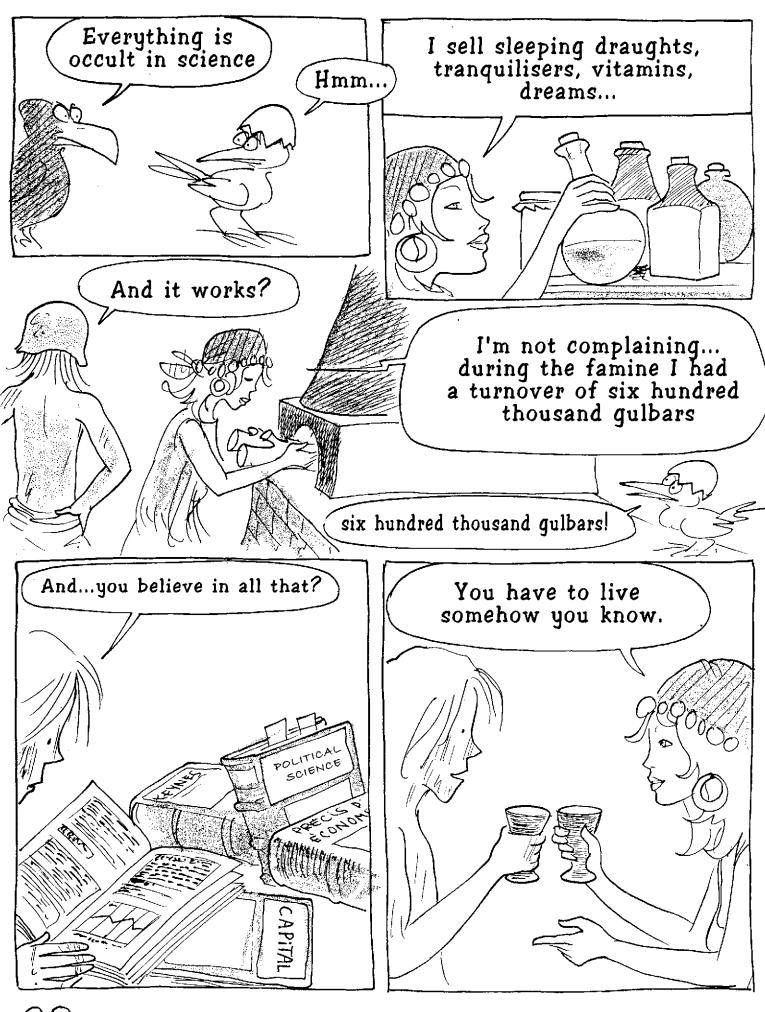
Nevertheless economic activity in Borderia, which had entered the INDUSTRIAL ERA, took off. Factories were built all over the place where Boredrians now worked for salaries. Most of them were owned by Numis and his family, bought or built with...paper-money.

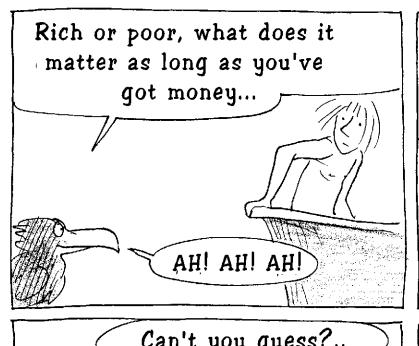




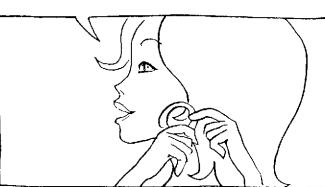


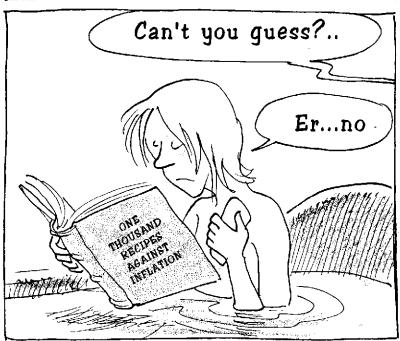




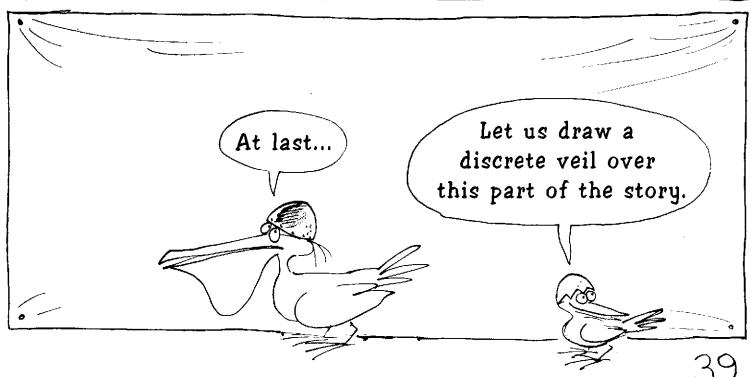


In this rotten world there is only one thing more important than money...

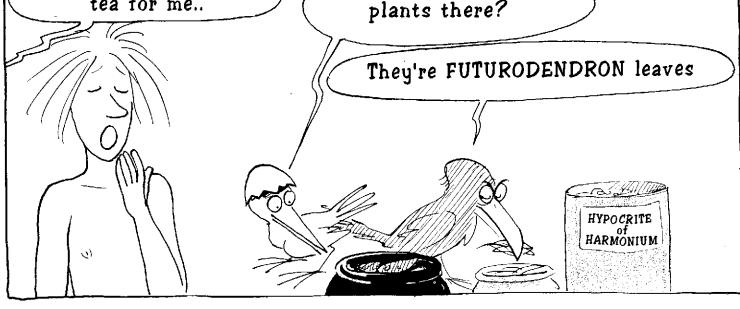




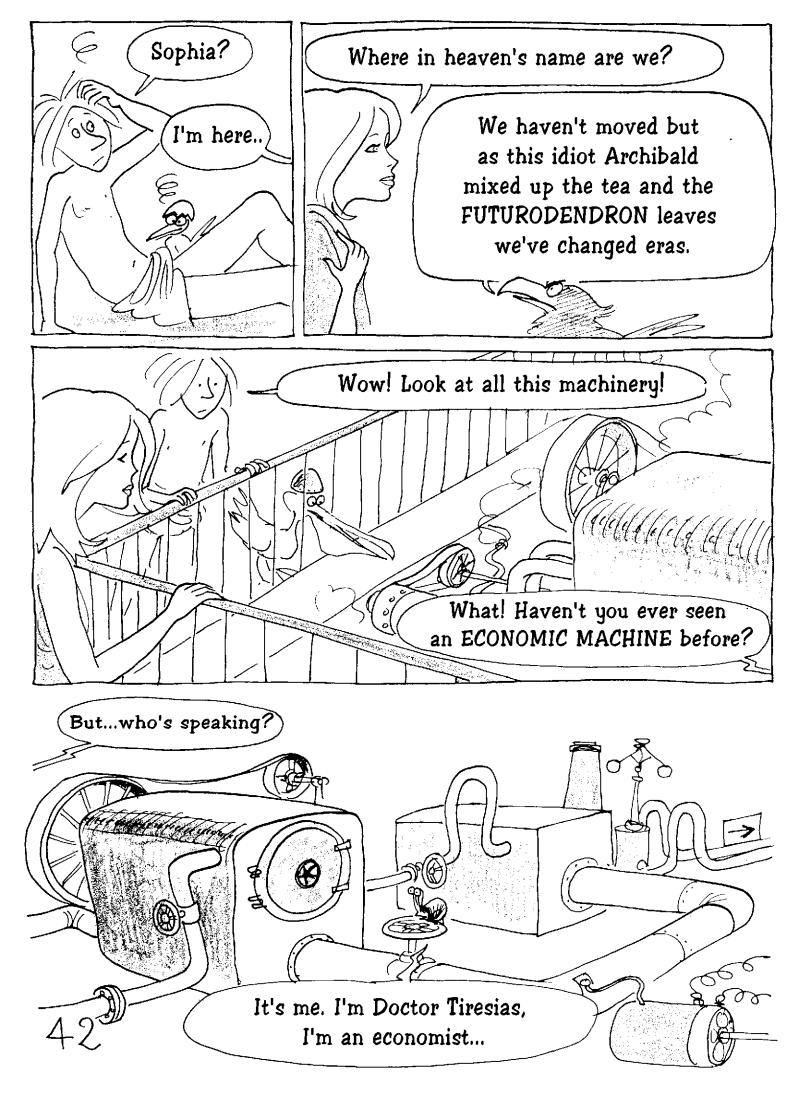


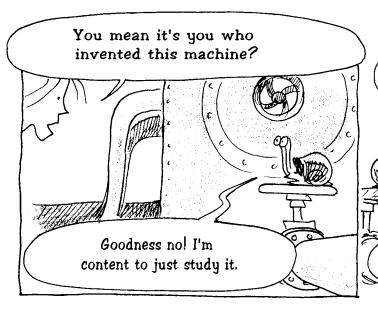






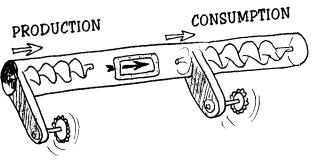




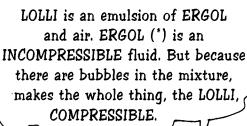


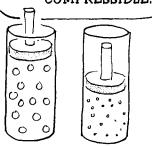
And what are all those pipe thingies?

They are ECONOMIC CIRCUITS

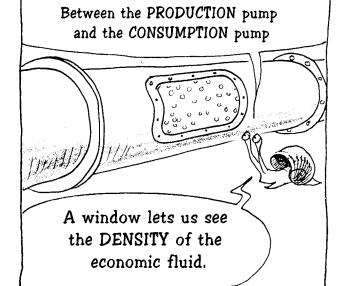


The economic fluid
in the pipework, the
LOLLI, is moved by
two sorts of Archimedes
screw pumps. The reverse
pump is called PRODUCTION,
and the forward suction
pump is called CONSUMPTION

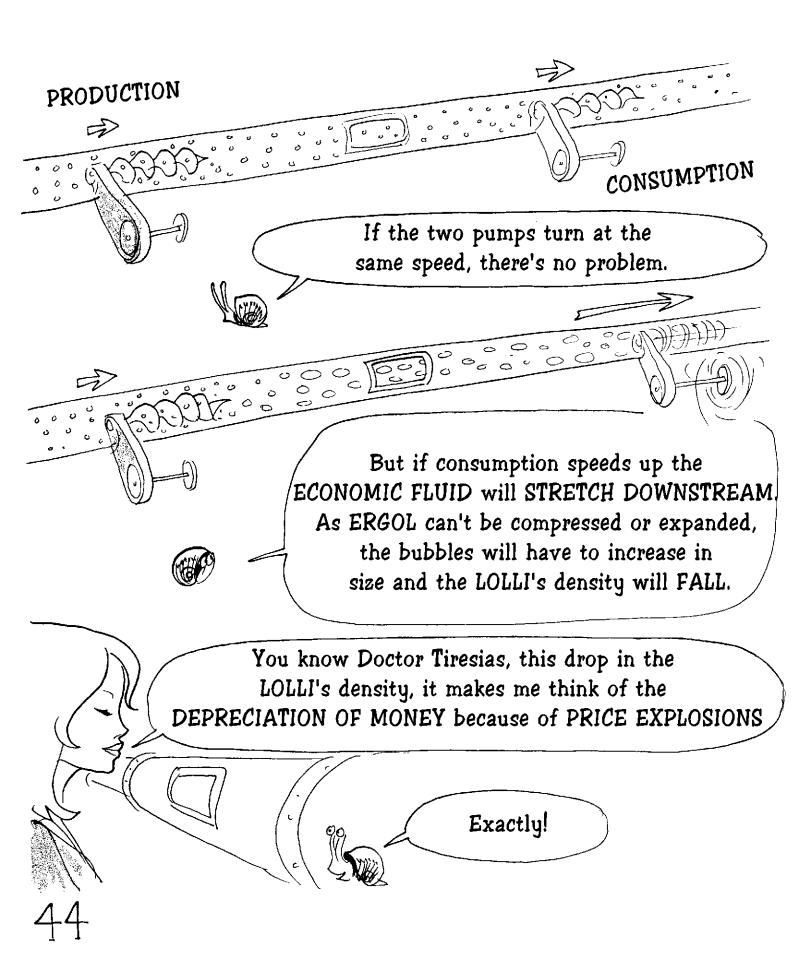


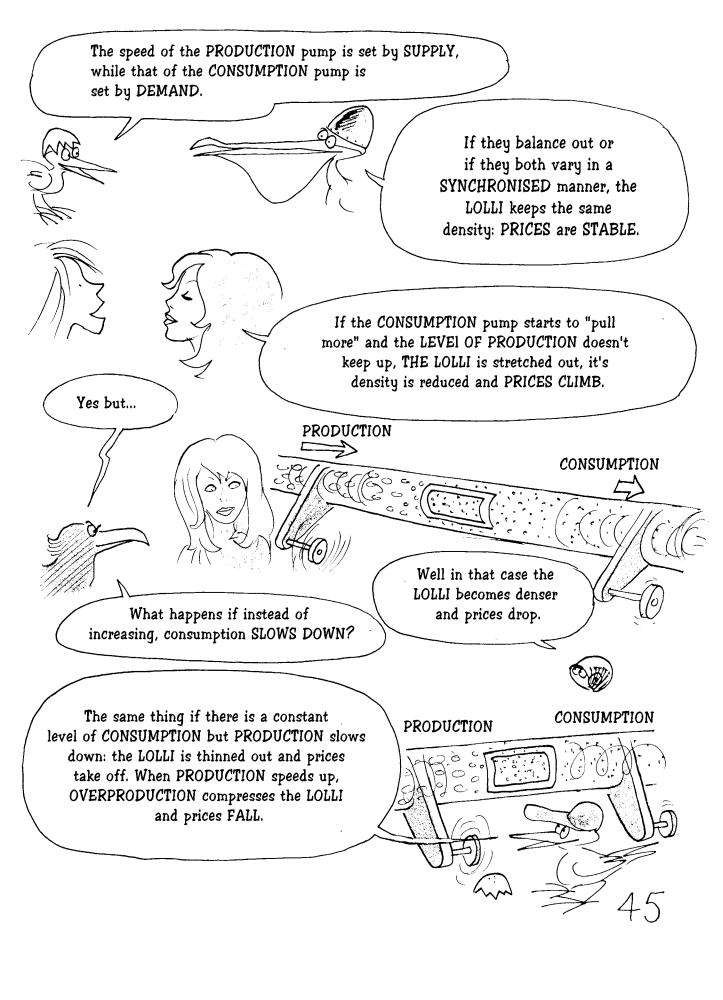


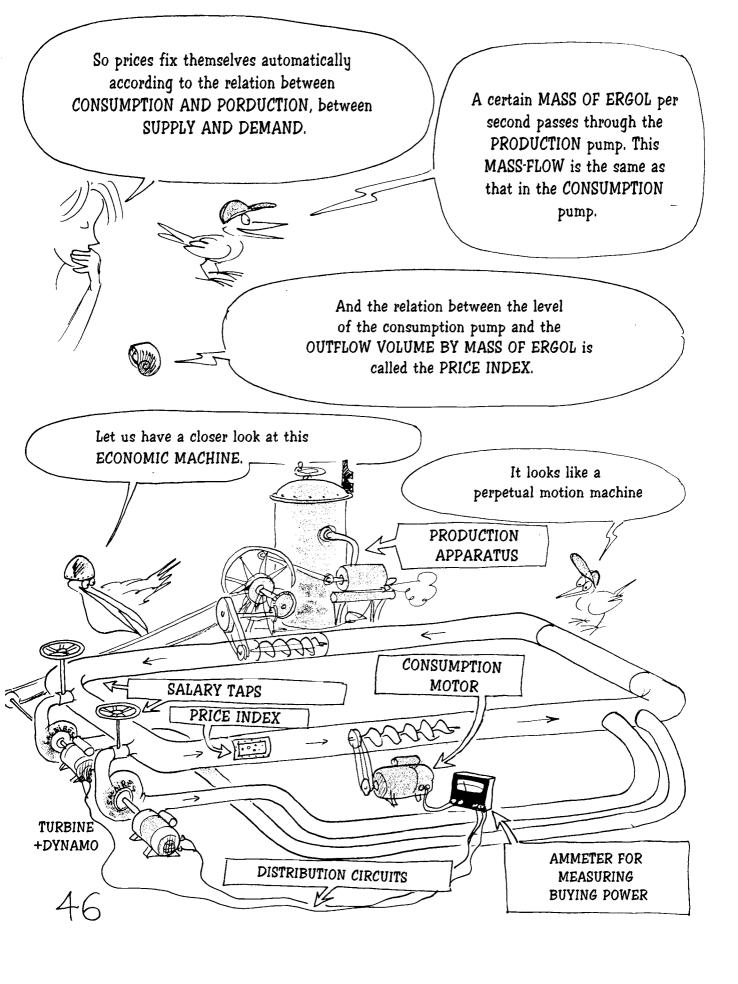
(\*) From ERGOS, Greek for 'work'

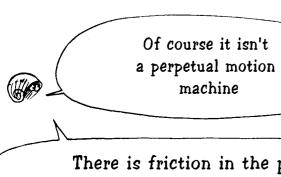


# FIRST LAW OF LOLLODYNAMICS







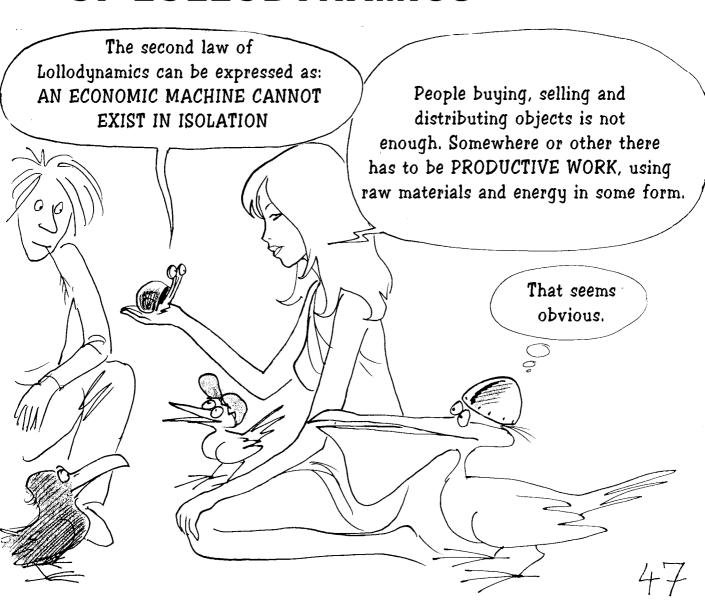




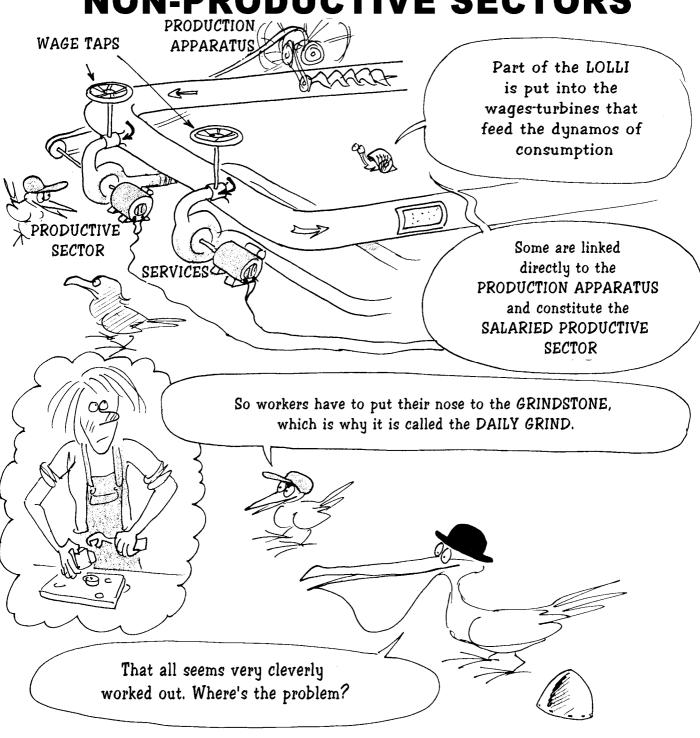
Isn't that what I said?..

There is friction in the pipes, losses in the electric lines. The thing only works because of an input of ENERGY.

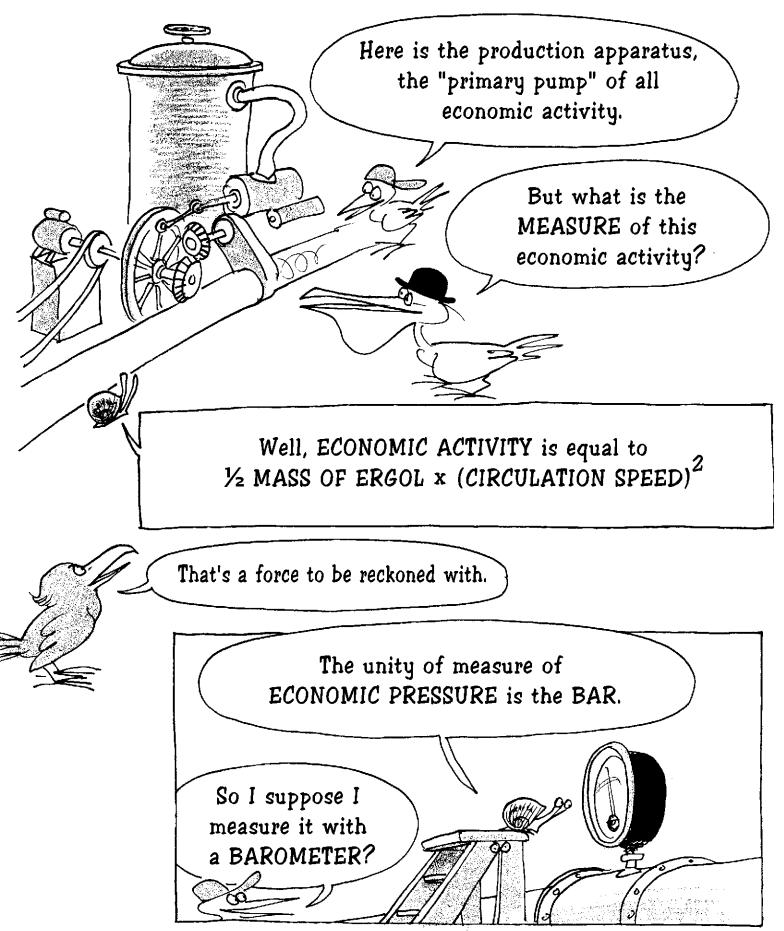
### SECOND LAW OF LOLLODYNAMICS



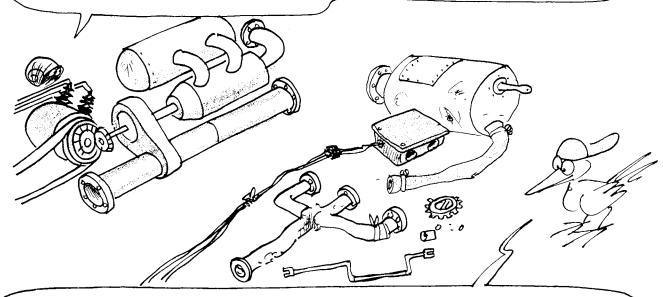
### PRODUCTIVE AND NON-PRODUCTIVE SECTORS



### **PRODUCTIVITY**

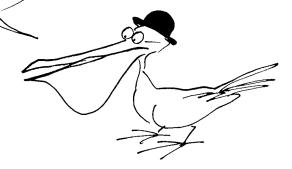


To increase economic activity the MASS OF ERGOL can be increased, that is to say the AMOUNT OF WORK SUPPLIED, but is also essential to improve the ways that this work is used and distributed, in other words, increase PRODUCTIVITY.



Yes, better to use a bigger, more modern machine, with very wide diameter pipes and thick electric conductors rather than doubling or tripling old installations.

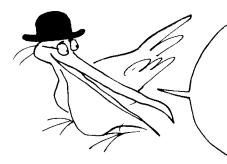
But one thing remains mysterious to me? Who fixes the amount of LOLLI circulating in the economic machine?



## GROWTH AND MONEY SUPPLY

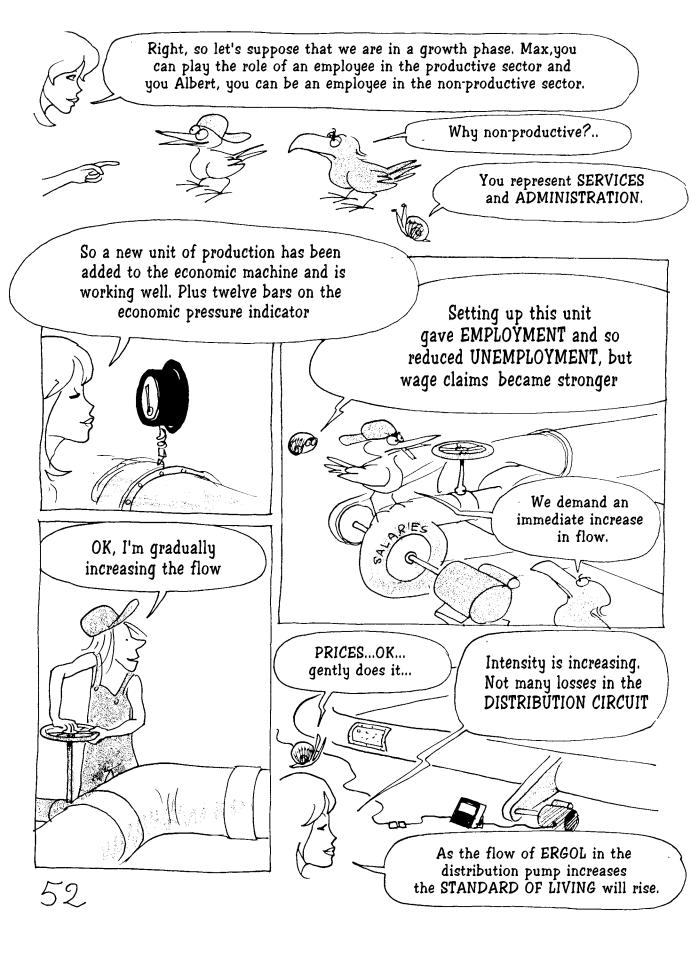
The REAL state of an ECONOMIC SYSTEM is the MASS OF ERGOL circulating in it. It is the dense fraction of LOLLI, the WORK FORCE and the ERGOL'S SPEED OF FLOW. What happens if we add a new PRODUCTION UNIT to the machine?

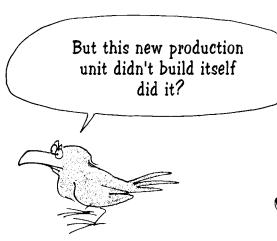
This production tool is delivered with a full tank of ERGOL so their is an increase in WORKFOrCE which naturally tends to increase the DENSITY OF THE LOLLY (and so make prices fall). It's normal, in a growth phase, to add a few bubbles, that is to say, increase the MONETARY VOLUME, in order to maintain PRICE STABILITY.



ERGOL

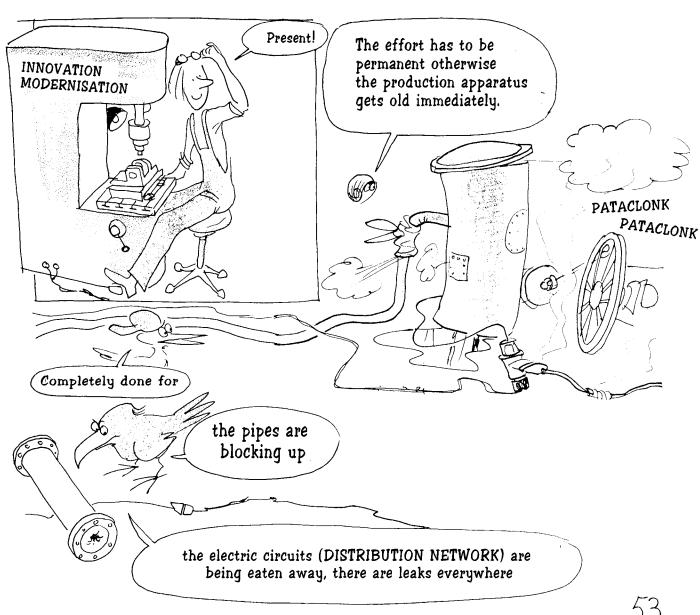
In fact I bet they add a few more bubbles each time without us noticing, which means that it catches up a bit with wage rises

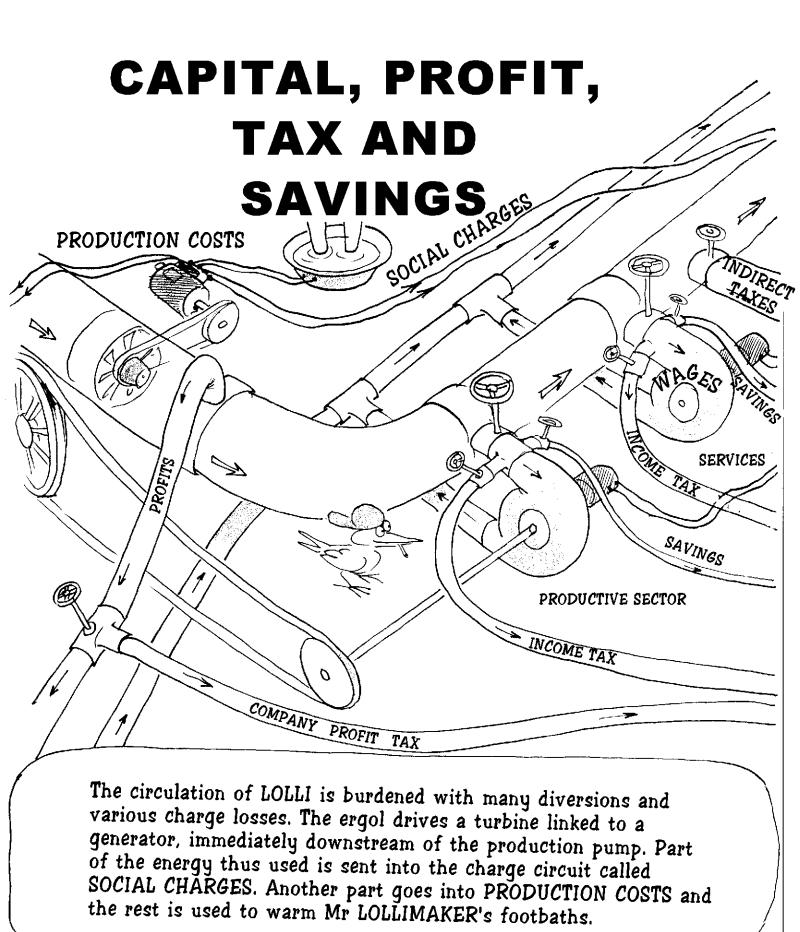


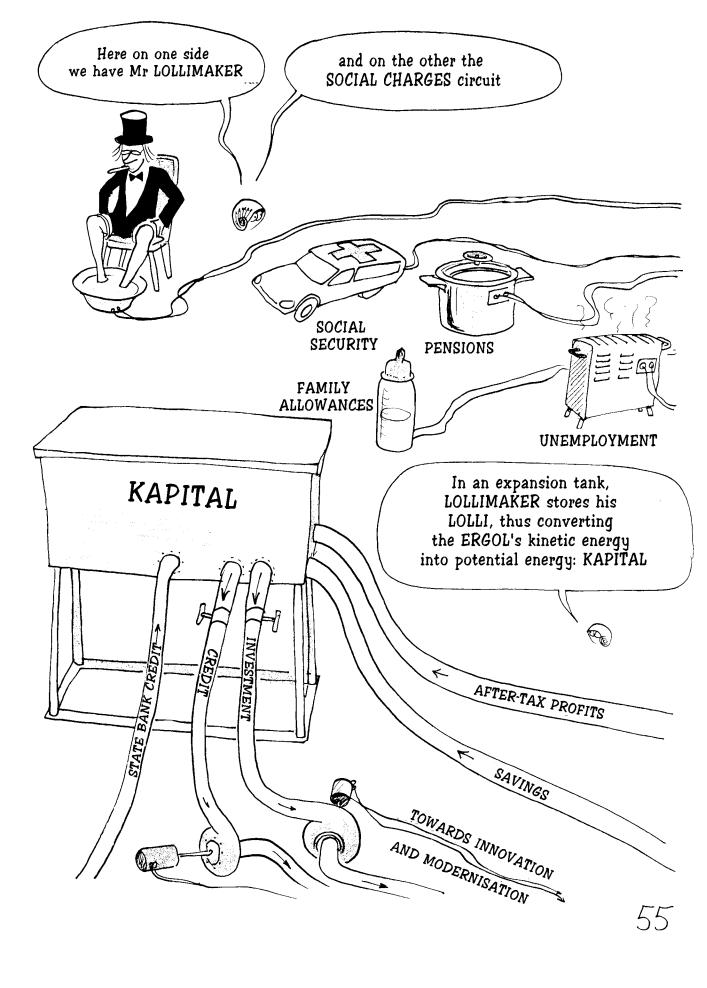


No, you're right. Part of the inner force of the Lolli has to be siphoned off to use for the INNOVATION and MODERNISATION of PRODUCTION

### INVESTMENT





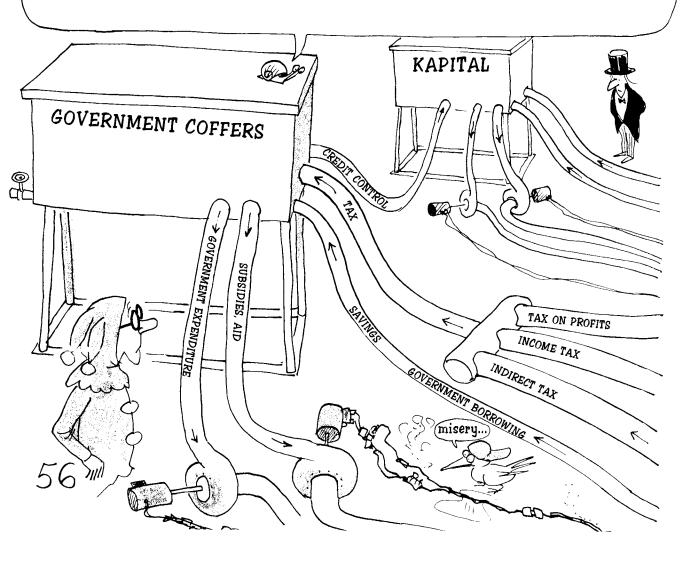


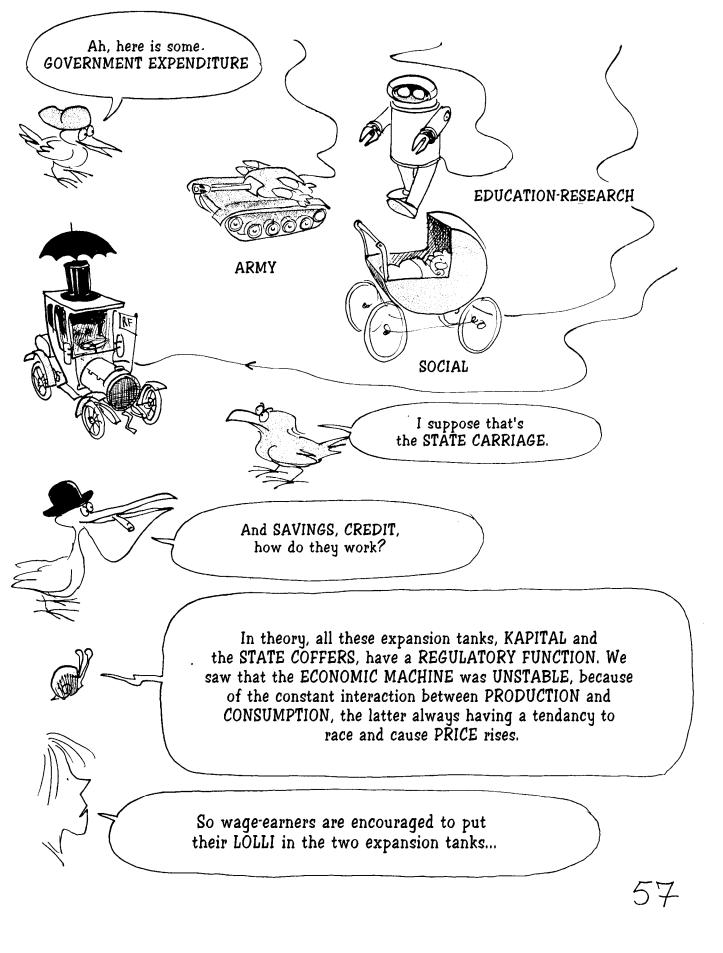
### The KAPITAL TANK is fed by AFTER-TAX PROFITS and by something we call SAVINGS

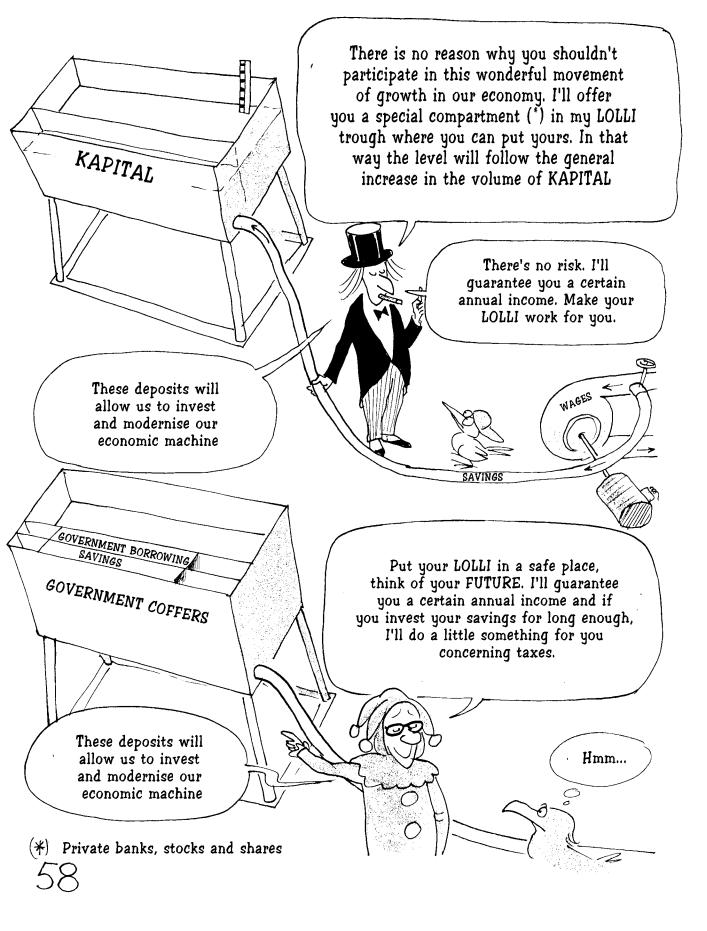


And conversely, LOLLI in the expansion tank can be sent to two turbines, linked to generators, one feeding my machine, that's innovation and modernisation, the other is called COMMERCIAL CREDIT.

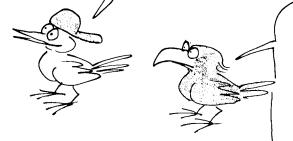
On his side the SINISTER OF FINANCE has a similar tank. It's fed by taxes. First is TAX ON PROFITS. Then a DIRECT TAX, on INCOME and finally, upstream of the CONSUMPTION PUMP, an INDIRECT TAX, such as VALUE ADDED TAX.







They don't give us much but look, the volume has gone up slightly all the same.

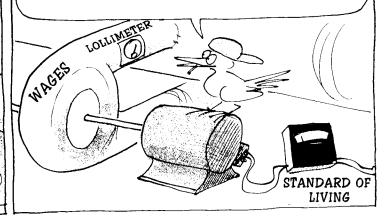


You're too naive. Economic activity is increasing. New production units are being built as there is growth in the total mass of ERGOL, but they put so many bubbles in the mix that the DENSITY of the LOLLI never stops falling. In the end you lose out.

Do you mean that when we have saved, increased the amount of ERGOL, the dense part of the mix FALLS instead of increasing?

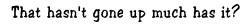
What do you think?

But our wages have gone up, look, the flow has almost doubled.



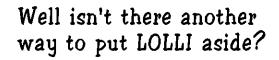
But all these turbines, it's just WIND, LOLLI that is less and less dense. Look at the intensity!

CONSUMPTION PUMP



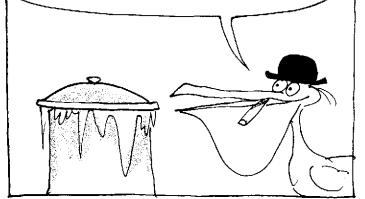
Real ECONOMIC GROWTH isn't the volume of
LOLLI but of the ERGOL contained in it.
The same for the STANDARD OF LIVING, it's
not the flow rate (wages) but it's intensity (BUYING POWER).

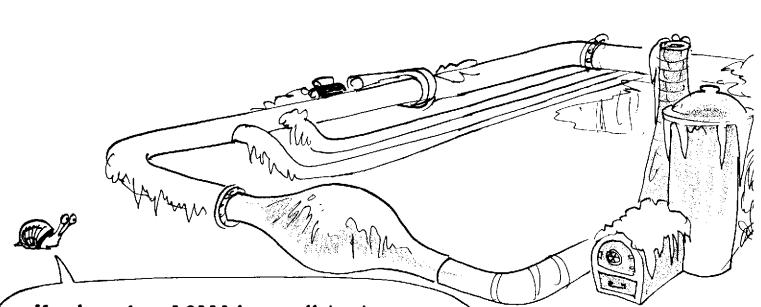




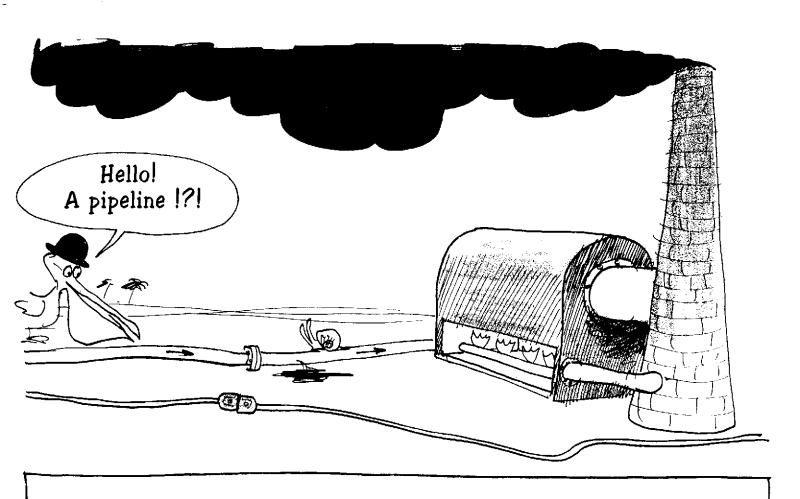
To ensure it has a CONSTANT MASS all you need ot do is freeze it.

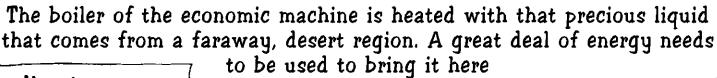
Good idea. To avoid INFLATION, the evil that eats away at economies, we just need to freeze everything!

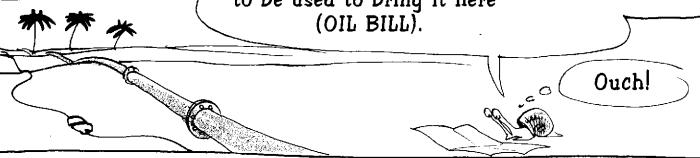




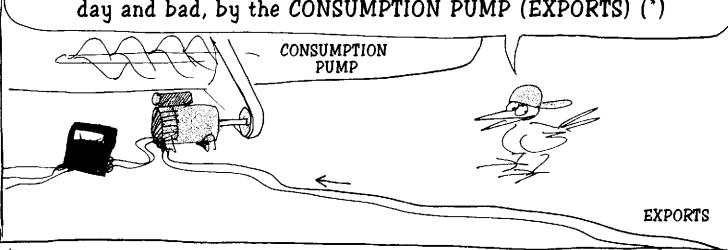
Yes but then LOLLI loses all its interest, which is in its FLUIDITY, the FREEZING OF CAPITAL would block the economic machine completely





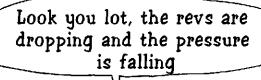


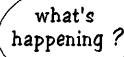
In exchange, the line coming from the desert is always fed, good day and bad, by the CONSUMPTION PUMP (EXPORTS) (\*)



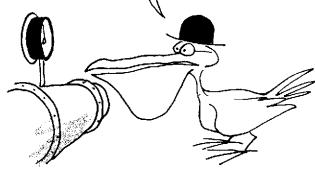
#### THE PETROL CRISIS



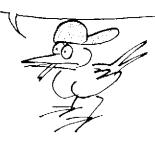




Lollimaker has closed the non-profitable production lines







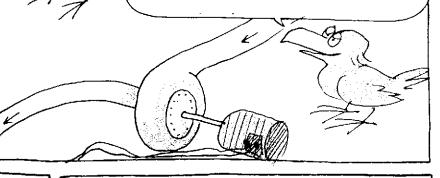




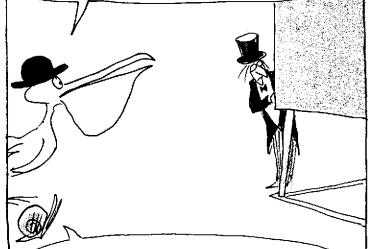
UNEMPLOYMENT

What are you doing?

Better buying now before prices rise. I'm using my SAVINGS to buy CREDIT



And what's Lollimaker doing?



I reckon he's putting a bit of air in his tank (INFLATION BY CREDIT) behind our backs.

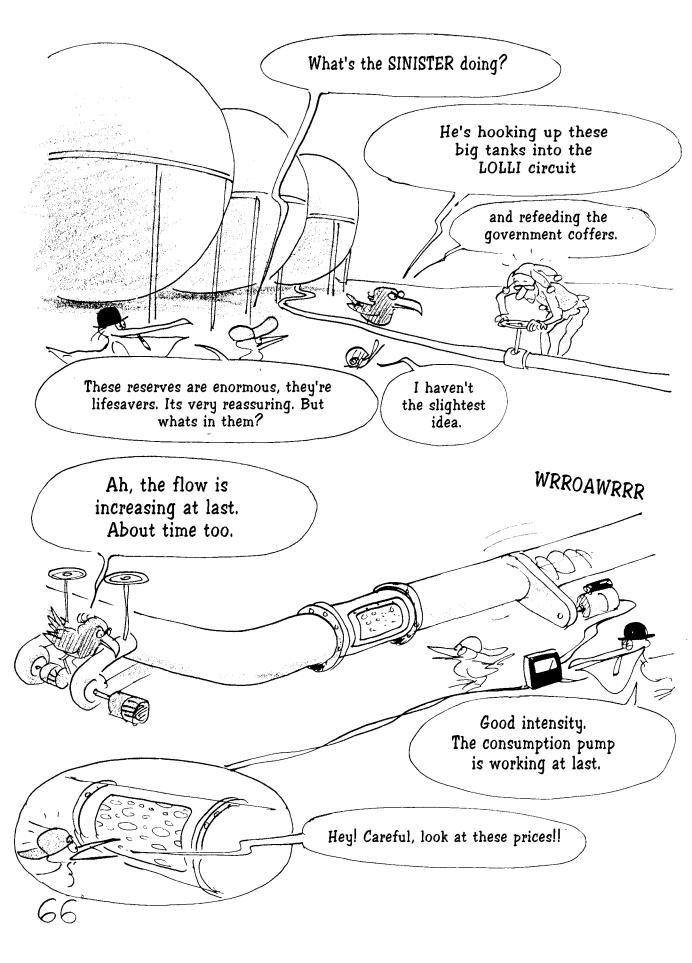
Do you mean that Lollimaker is making...counterfeit money?

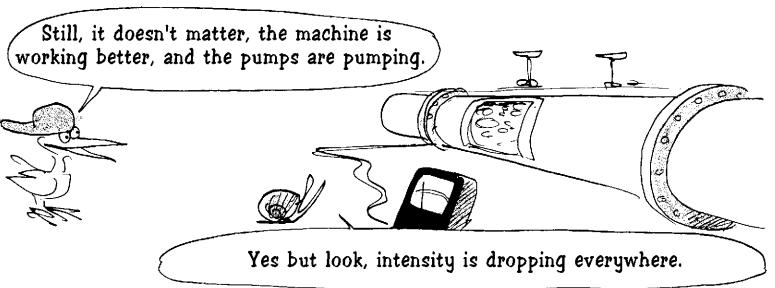


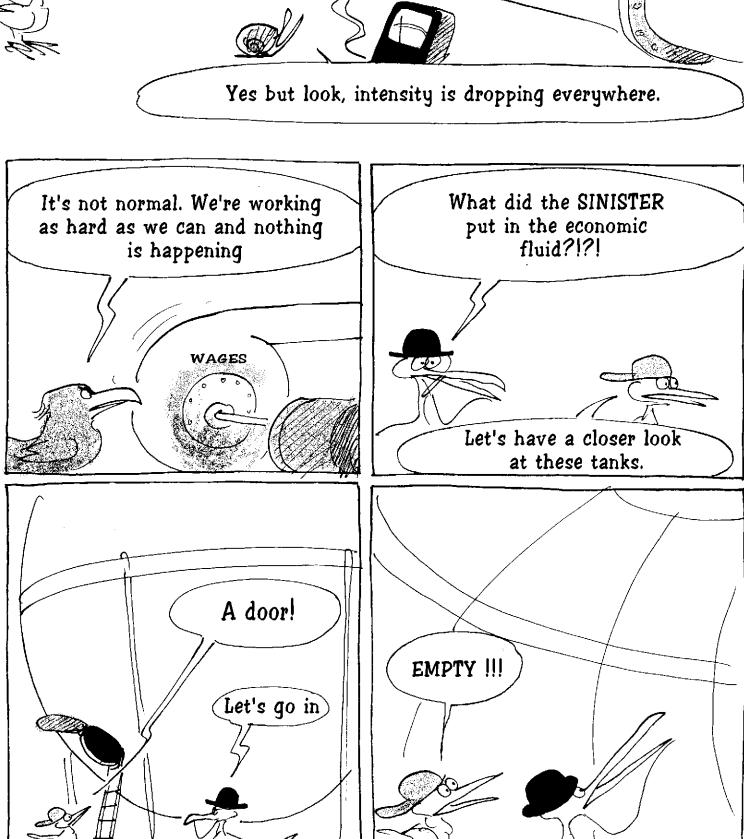
No, not really...but the BANKING SYSTEM, all these papers, these credit engagements..all that finishes by looking very like money and if one day we emptied Lollimaker's tank, I'm sure we'd get loads of surprises.

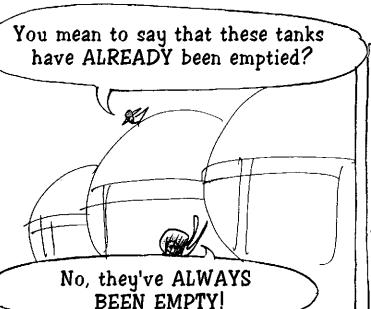


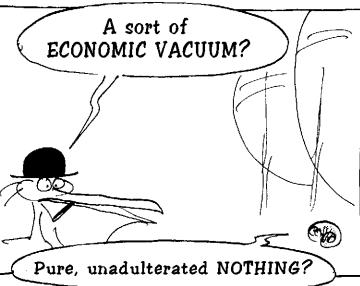












When things are going badly, all SINISTERS are the same. They inject an enormous quantity of WIND into the circuits. At the beginning that helps the LOLLI, STIMULATES it.



loses density.

Prices rise.

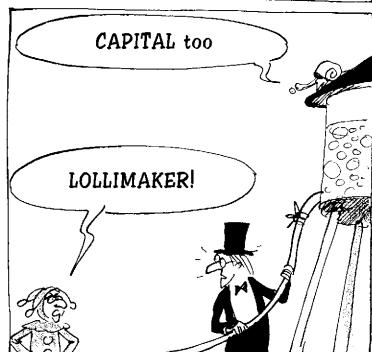
But all that homogenises

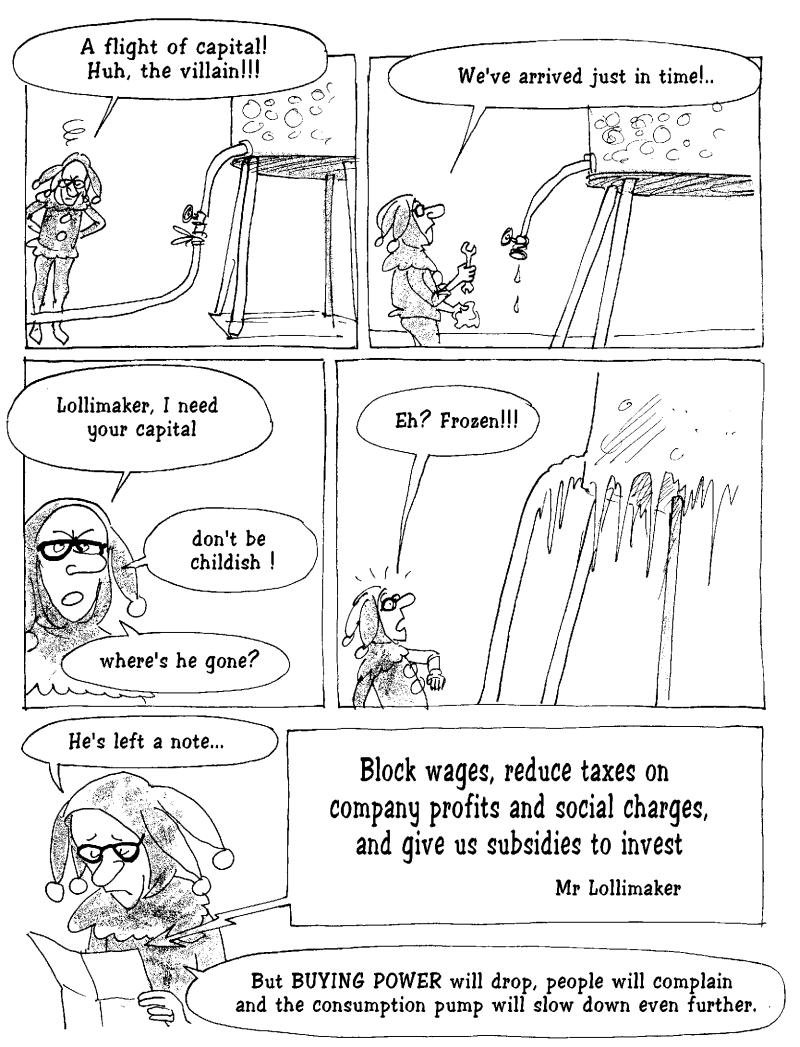
with the result that LOLLI

Blow, I'm losing

my savings too.

SAVINGS depreciate.

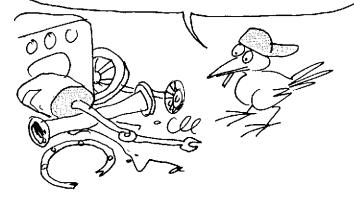


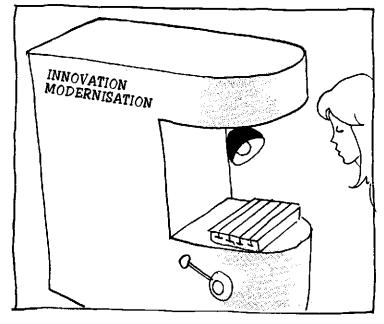




### **EPILOGUE**

Look, another production unit that has been dismantled.







Well have to make another one, lot of others...

MINISTER...

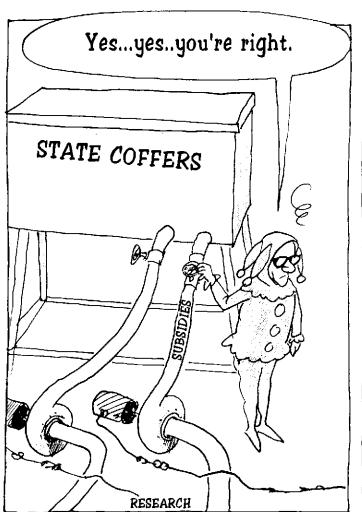


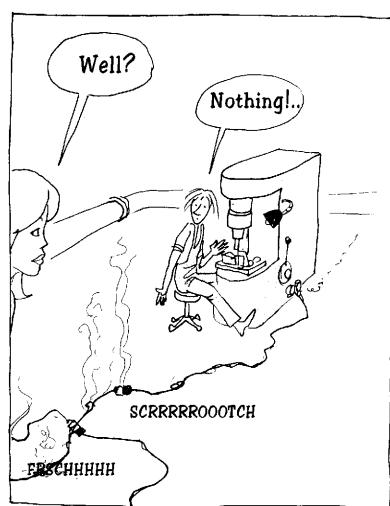
What if I created another ministry?..or a Secretary of State?..



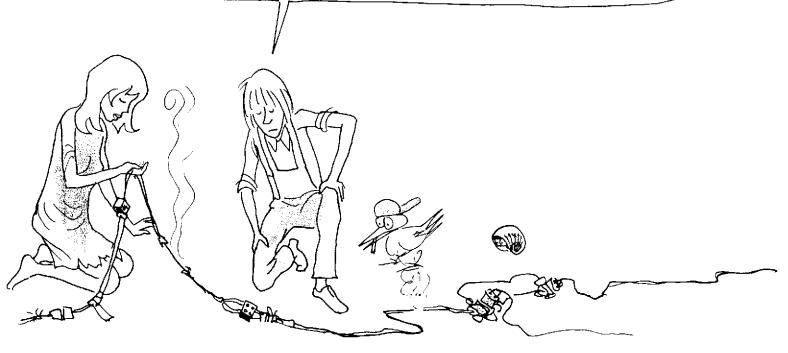
Minister, the only solution is a leap forward. We have to INNOVATE, create new and modern production tools.

We have to use our IMAGINATION.





The problem with this country is leaks on the lines.



THE END